



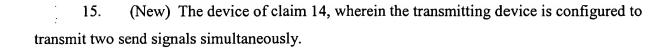
## APPENDIX B

(Listing of All Pending Claims After Amendment)

8. (New) A device for determining changes of the density of a medium comprising: a transmitting device for the emission of a send signal, said send signal having a constant frequency and amplitude and a minimum of one period, with the transmitting device being coupled to the medium for reflecting the send signal from the medium as a response signal, said response signal being the signal reflected when the send signal encounters the medium;

at least one receiver unit for receiving the response signal from the medium; an A/D converter and a sampling unit coupled to each of the receiver units, said A/D converter and sampling unit converting the response signal into an A/D converter output, wherein the transmitting device and the A/D converter output are linked to a numerical processing unit for detecting and outputting the phase shift between the send signal and the response signal.

- 9. (New) The device of claim 8, wherein output from the numerical processing unit is coupled to a reporting device.
- 10. (New) The device of claim 9, wherein the reporting device is a computer display unit.
- 11. (New) The device of claim 9, wherein the reporting device is a memory unit that stores the output from the numerical processing unit.
  - 12. (New) The device of claim 8, wherein the send signal has a sine shape.
  - 13. (New) The device of claim 12, wherein the send signal is an acoustic signal.
- 14. (New) The device of claim 8, wherein the transmitting device is configured to transmit two send signals.



- 16. (New) The device of claim 14, wherein each of the two send signals has a constant frequency and amplitude.
- 17. (New) The device of claim 16, wherein the transmitting device and receiver unit are coupled to identical channels in which the signals are conditioned and filtered.
- 18. (New) The device of claim 14, wherein each of the two send signals has a different frequency from the other, with a signal propagation time of the two send signals differing by a maximum of one period.
- 19. (New) The device of claim 8, wherein the transmitting device and receiver unit are formed as a single convertible sensor.
- 20. (New) The device of claim 19, wherein the length of the send signal is at most equal to twice the distance between the sensor and a reflection point on the medium, the reflection point being the point where the send signal reflects off of the medium.